



## Inspiration and Substance with Endless Possibilities.

**A truly perfect and complete balance on performance, simplicity and functional efficiency.**



# Our Antenna System: Re-interpretation of Performance

Established in 1993, one of the oldest manufacturers, Navisystem specializes in the design, production and after-sale service of maritime stabilized antennas that are known for advance technologies, intelligent design, and the innovative use of materials, all with the aim of reinventing a truly unique antenna system with unrivalled tracking performance, extremely compact, exceptionally robust, and the greatest possible range with flexibility.

Navisystem's distinctive technology credentials, holding numerous key patents and intellectual properties on antenna design, pride itself on the relevancy of their features and functionality that keep redefining the industry standard and set ours apart from competing systems. The upshot is our high efficient stabilized platform, which is built

around the patented IntelliMax architecture, itself underpinned by a strong drive system with high torque actuators providing high speed angular velocities and accelerations. The system is therefore highly responsive and maintains an unparalleled accuracy greater than  $0.2^\circ$ , even at  $\pm 20^\circ$  pitch or roll ship motion. This accuracy allows the system to have continuous full access to all satellites TV programming worldwide.

Applying advance system design with breakthrough in radome-to-antenna ratio, our antenna features a significant reduction in size and weight with approximately 50% smaller and 20% lighter than the comparable systems. We are able to house a larger dish in a small radome, that can fit into a great variety of vessels, with no compromise in the tracking



## A higher level of reliability to meet all major specifications ....

reliability and signal strength found in most small-sized antenna systems on the market.

The mechanical architecture is very intelligently designed and built to meet all major specifications and standards to withstand shock and vibration, blasts and severe environmental conditions at sea. The internal structure is entirely a rugged hard coated anodized finish over marine grade, tempered aluminum. Other than providing unsurpassed durability and strength against corrosive marine environment, this unique mechanical structure ensures the maximum mechanical precision to optimize pointing and tracking reliability.

While competitive systems offer a very limited choice, Navisystem provides 4 core models in 23 configurations to complement the vessels size, to suit the budgetary requirements, and to address the rigorous operational needs of leisure, commercial and military, for live satellite TV.

Antenna Size (cm)	Vessel Size (m)	Description
44	6 – 12	Small, compact, powerful bringing large antenna performance to small disk
48	10 – 15	
55 / 60	13 – 18	The best combination of size and performance
65	17 – 25	
75 / 85	23 – 30	The right solution when you need to head offshore.
95	30 – 40	
120	> 40	The highest performance even in the worst weather and ocean conditions
135	> 50	



# A-Series

## Compact. Efficient.



The popular Navisystem's A-Series antenna families offer all of the same great performance you would expect from the larger Navisystem antenna systems, but in a much more compact package with the ease of use and simple installation.

Available in an array of dish sizes ranging from 44 cm to 60 cm housed in an ultra-small radome comparable to competing < 40 cm models, the A-Series line of satellite TV antenna systems is well suited for virtually any Ku-band reception at sea. The ideal 44cm disk is well recognized as the minimum to get around the weak signal problems encountered in the competing < 40 cm models when satellite signal is marginally available.



The additional few centimeters provide solid signal intensity to stay on the satellite during bad weather and when sailing in marginal signal region. The A-Series is ideal for small vessels, as small as 6m, in the leisure and commercial markets, where available deck space is limited and close-to-shore operations do not require a larger satellite TV antenna system.



The A-Series line of products completes with a fully automated Sat 6 Control Unit, featuring Automatic Pointing System (APS), Active SmartLock Protocol (ASLP), 2 satellites/3 outputs configuration, and global satellites library.



# NT-Series

## Optimum. Performance.



The compact Navisystem's NT-Series antenna families, including NT-1 and NT, has blended a unique combination of advanced system design with the most sophisticated satellite acquisition and tracking programs to provide an exceptional efficiency and dynamic capability.

This enhanced pointing accuracy, stability and reliability is made possible by a combination of built-in gyrocompass, GPS, and inclinometers.

In the event of satellite beacon signal degradation due to rain fade, the system can switch over to Manual Tune for signal peaking, and therefore greatly reduces the endless "Searching" associated with a typical automatic track only system on the market.



Available in an array of dish sizes ranging from 48 cm to 95 cm, the NT-Series line of satellite TV antenna systems is optimized for Ku-band TV reception at sea.

Optional Double Polarization is compatible with satellite TV services worldwide, allowing users to switch seamlessly between services without the laborious and costly process of swapping out LNB in each new region.

The NT-Series is ideal for trawlers, trading and pleasure craft in all classes, which requires reliable TV reception when heading further offshore.



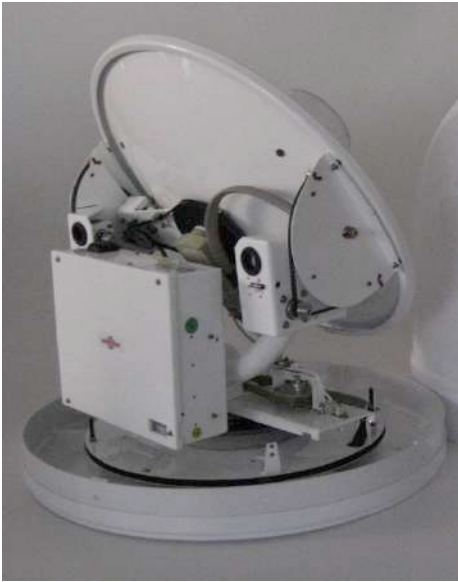
The NT-1-3 Series line of products complete with enhanced Sat 48 Control Unit featuring Automatic Pointing System (APS) with optional manual over-ride, Active SmartLock Protocol (ASLP), 3 satellites/3 outputs configuration, gyro interface, and global satellites library.

The NT Series line of products complete with powerful Sat 103 Control Unit with Remote Control and informative display, featuring Automatic Pointing System (APS) with Manual Tune, Active SmartLock Protocol (ASLP), and multi-satellites configuration, gyro interface, auto polarization control, and global satellite library.



# HT-Series

## Advance. Performance.



The Navisystem HT-Series antennas system embodies the perfect synthesis of advance stabilization and pointing accuracy to meet the requirements as well as the extreme stresses and strains on ocean going vessels to stay on the satellite, receiving perfect picture, in poor weather and heavy seas.

The system “locks on” to the received carrier signal within a 10 second acquisition time. The system is then monitored by NaviBer Adaptive Tracking Control (NATC) and is maintained in a position for the best received C/N signal. The unique advance tracking method speeds up the transition from one satellite to another (usually with 2 seconds) and also ensures that the system can make an extremely fast recovery from any sync loss.



NaviBer Adaptive Tracking Control (NATC) provides a significant advantage in signal-to-noise ratio and, hence, Bit Error Rate (BER) performance for the systems. Improved BER performance and fewer signal outages deliver robust link availability for continuous TV reception.

Available in an array of dish sizes ranging from 55 cm to 95 cm, the HT-Series line of satellite TV antenna systems is configurable with virtually any Ku band satellite to enable live satellite TV programming.

The HT-Series is ideal for trawlers, trading and pleasure craft in all classes, which requires reliable TV reception in all oceanic regions throughout the world.

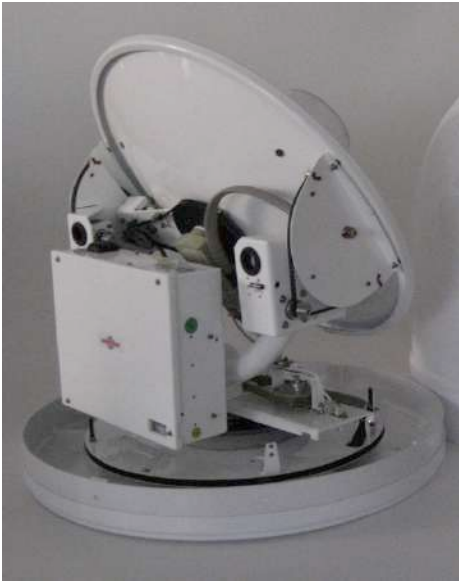


The HT-Series line of products complete with versatile Sat 105 Control Unit with Remote Control and digital informative display, featuring Automatic Pointing System (APS) with Manual Tune, Active SmartLock Protocol (ASLP), NaviBer Adaptive Tracking Control (NATC), Automatic Commutation Unit configuration, multi-satellites configuration, gyro interface, and auto polarization control.



# Pro-Series

## Versatile. Performance.



The breathtaking Professional Series are built on the success and proven performance of our HT Series, and keep pushing the boundaries of what Navisystem patented IntelliMAX platform can do with a refined design and enhanced standards of construction.

Whether it's installed on a commercial or a military vessel, the Professional Series provides the most versatile and convenient satellite TV experience available thanks to rock-solid advance tracking capability. A strong drive system combined with an inertial control system with built-in GPS, gyroscopes, and inclinometers, leads to a stable alignment even in the extreme maritime environments.



The built-in automatic Polarizer with +/- 90° automatic correction in accordance with the vessel's geographical position, enables a constant radiation pattern and the waveguide transmission lines, and therefore eliminate any signal degradation.

With its array of dish sizes from 95 cm to 135 cm, Navisystem's Professional Series provides crystal clear reception of your favorite TV programs around the globe. Professional Series is the most versatile and powerful satellite TV system for ocean-going vessels destined for international seas.



The Pro-Series line of products complete with versatile Sat 105 Control Unit with Remote Control and digital informative display, featuring Automatic Pointing System (APS) with Manual Tune, Active SmartLock Protocol (ASLP), NaviBer Adaptive Tracking Control (NATC), Automatic Commutation Unit configuration, multi-satellites configuration, gyro interface, and auto polarization control.



# Key Features

**Advance Technologies.** Applying the advance system design, Navisystem patented IntelliMAX stabilized antenna platform offers:

- ✿ A low radome-to-dish diameter ratio to house a larger dish in a small radome, with no compromise in the tracking reliability and signal strength found in most small-sized antenna systems on the market;
- ✿ The maximum mechanical precision to optimize pointing and tracking reliability, and therefore guarantees unbeaten performance for demanding environments and in particular for vibration exposed applications;
- ✿ True full hemispherical coverage, without keyholes, at all elevations above the horizon.
- ✿ Truly quiet operation due to overall noise reduction design
- ✿ Internal EMI shielding to cancel the RFI problem up to +/- 20° of interference potential

**Fast Tracking** with high accuracy maximize the availability and reliability. Our antenna systems attain superior tracking performance as a result of:

- ✿ Automatic Pointing System (APS) allows the signal processing performing fully automatic, fast and accurate satellite

acquisition and lock within 10 seconds.

Manual Tune, usually only found in advance telemetry system, can be performed to overcome APS automatic tracking disruption under marginal signal condition, such as rain fade, to maintain the antenna always peaked at the optimum position.

- ✿ A combination of built-in gyrocompass, GPS, and inclinometers provide for an accurate and reliable satellite tracking. In case of a weak signal situation, these sensors are able to point the antenna independently.
- ✿ Active SmartLock Protocol (ASLP), to stay locked on to satellites and to provide a quality picture on TV screens, even the channel has moved to a different transponder.
- ✿ NaviBer Adaptive Tracking Control (NATC) constantly monitor and optimize the satellite link performance to allows antenna to search, peak and lock on to a signal with incredible speed up to 180°/s for uninterrupted TV signal.
- ✿ Backlash free drive configuration to maximize pointing accuracy





**Fully Configurable.** Navisystem antenna systems are fully configurable with Exclusive NaviSolutions to enhance the functionality to suit your needs. These options include:

- ✿ Voice/Data Kit to add Thuraya L-Band voice and broadband services;
- ✿ Terrestrial TV digital kit supporting all digital TV standards;
- ✿ Double polarization to seamlessly switch between Americas/Russia TV and Europe/Asia TV systems;
- ✿ Military specification upgrade package.

**Easy to use.** Remote control allows easy satellite switch.

**Simple Installation, Setup, and Maintenance.** Simple service and maintenance is inherent to the mechanical design.

- ✿ Navilynk multiplex signal control to enable only one cable (at virtually unlimited length) between antenna and control unit for fast and easy installation.
- ✿ The modular design with all the electronics being sealed in a cast housing and integrated into the pedestal structure, is implemented to support ease of maintenance.

- ✿ Fully compliant with major satellite operator specifications worldwide
- ✿ Supports multiple television configurations through Multiswitch.
- ✿ Ready for multiple satellite selection with preloaded global satellite library
- ✿ No system rebalancing
- ✿ 3 years warranty proves our commitment to the quality and reliability of every antenna systems we make

**Robust and Rugged Built to maximize your ROI.** Our antenna systems are built to:

- ✿ The most strict and proven specification of CE as well as EN 60945 and 60065 compliance.
- ✿ Comply with ISO 9001 standard.
- ✿ Withstand shock and vibration, blasts and severe environmental conditions at sea
- ✿ Design lifespan of more than 10 years; proven MTBF of over 4 years

**Future Compatibility.** The antenna system is designed to provide reliable access to all Ku band satellites worldwide. The same antenna and stabilization design can offer improved performance for future deployments on Ka band satellites.



# Exclusive NaviSolutions

Enliven and enhance the entire onboard experience with a host of configurable and extendable options using our patented technology.



**Dual Band Antenna Solutions.** With its patented integrated feed design, Navisystem's dual band antenna systems integrate Ku band (TV) as well as L band (voice and data) in one single antenna, without size increase, to complement the onboard entertainment with cost effective voice and broadband services. This results in numerous benefits of low equipment and lifecycle cost.

Currently, this dual band antenna systems support L Band Thuraya service only, whereas other GEO based L band services will be available shortly.



**Integrated Antenna Solutions.** Navisystem combined the TVRO antenna solution with the maritime VSAT antenna technology for a new integrated antenna solution to meet the emerging requirements for greater integration of onboard communication and entertainment services, as well as improved crew morale services. Instead of two antennas, we can integrate 2 TV services and connectivity services into a single antenna to take advantage of low equipment and lifecycle cost.



**Automatic Commutation Systems.** Navisystem's innovative Automatic Commutation System, working with Sat 105, is the new generation of antenna switching systems. It is capable of automatic switching between two antenna systems, regardless of TV or V-SAT, when one has encountered blockage, sudden loss of AGC, or power failure. Once one antenna is blocked in sight, the other antenna seamlessly takes over the satellite connection to prevent nearly any loss of satellite signals through blockage. This allows a fully redundant system to guarantee the availability of TV, broadband or voice services.



**OEM.** Navisystem OEM program is augmented with global distribution partners that have access to our extensive technology and product capabilities. We have expertise in supporting OEM requirements, such as custom configurations and custom engineering.

Please contact our sales offices for detail and quotation.



## Support

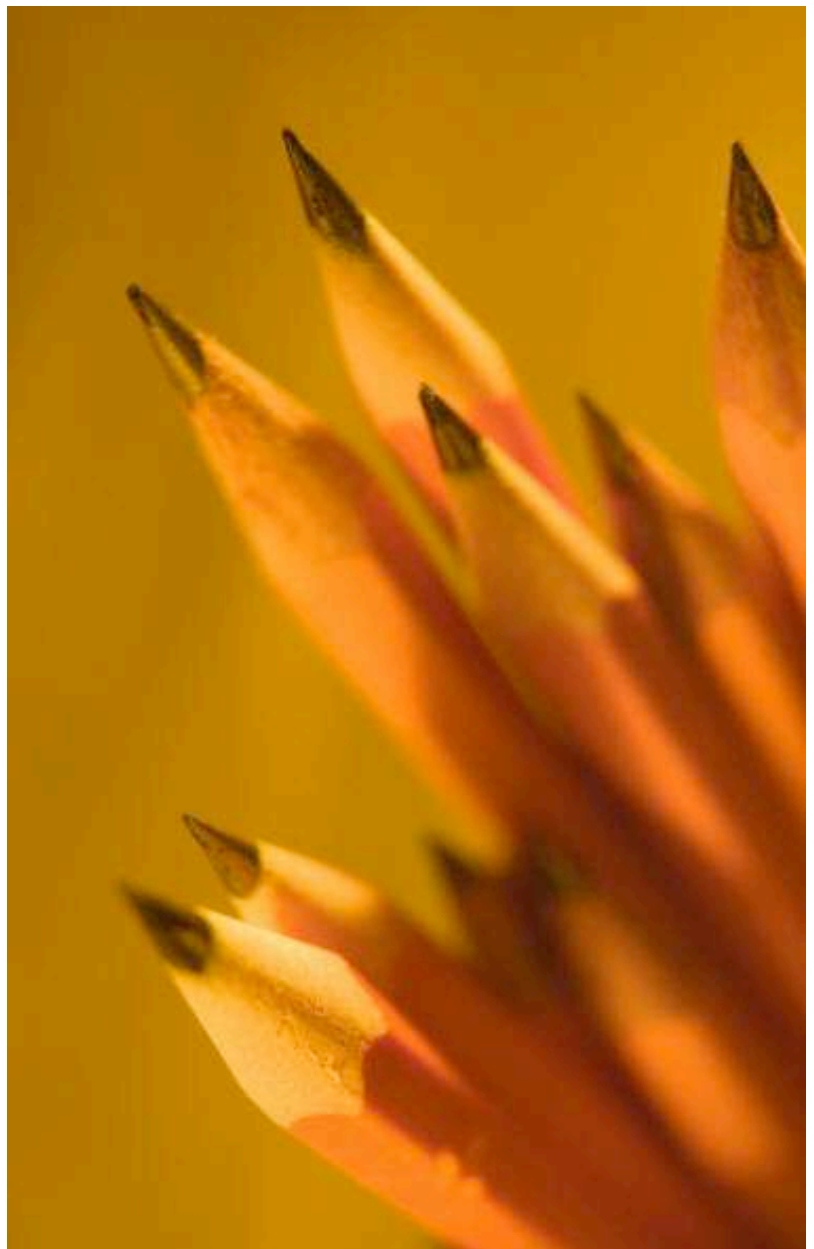
**Ordering.** Orders must be placed in an official Purchase Order to Navisystem Asia Pacific. Delivery charges will be 'ex factory'. The delivery lead time is usually 10 days subject to confirmation.

**Warranty.** A three-year limited warranty is standard on all Navisystem products.

**Training.** Navisystem offers a variety of standard training modules in support of our products. Topics covered in these modules include core concepts, configuration, day-to-day operation, management and performance tuning. Courses are open to engineers and professionals at a variety of skill levels.

Every 2 months, Navisystem will conduct several classes in our headquarter, where training room is installed with the equipment together with the necessary test equipment, readily available to enable the theory to be put into practice. Each class will be presented by one of our knowledgeable service tech staff members while each attendee will receive training materials and a certificate upon completion.

These comprehensive training programs ensure that our technical professionals remain accredited and conversant. This in turn extends the number of competent local partners around the world, providing Navisystem's customers with reassurance in keeping equipment fully operational.





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“Perfetto”



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